

# W5YI

America's Oldest Ham Radio Newsletter

## REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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## **FCC Adopts Order to Implement Universal Licensing System**

The primary mission of the FCC's Wireless Telecommunications Bureau is getting the various radio licenses the Commission oversees issued quickly. This is not a small job when you consider that the FCC processes hundreds of thousands of license applications annually in the various services.

At present, the FCC has many different systems that process applications and issues licenses. The Commission has rethought the entire process and the result is a new common licensing arrangement which combines all separate licensing systems into one. *Universal Licensing*, which has been under development for nearly two years, represents a major breakthrough in the Commission's use of state-of-the-art technology to support its regulatory functions.

The Commission currently uses more than 40 different forms. The objective is to have one system and an absolute minimum of forms.

The *Universal Licensing System* (ULS) is web browser-based and contains everything you need for electronic filing. You simply enter the required information into a registration screen. You can also make changes to the licensing database once entered.

The *Notice of Proposed Rulemaking* (NPRM), WT Docket No. 98-20, entitled *"To Facilitate the Development and Use of the Universal Licensing System in the Wireless Telecommunications Ser-*

*vices,"* was adopted on February 18<sup>th</sup> and ran to nearly 400 pages. The NPRM carried an extremely short comment period ...only 30 days after publication in the Federal Register. And replies closed 15 days later.

### **ULS Report and Order issued**

The Commission has now adopted the new ULS regulations (on September 17) — just six months after the public comment period closed on the proposal.

The *Report and Order* (R&O) consolidates, revises, and streamlines the license application procedures for all radio services licensed by the Wireless Telecommunications Bureau including the Amateur Service.

The Universal Licensing System (ULS) will enable electronic filing of wireless applications, licensing information, and public access to such information for all wireless radio services. This rulemaking is also the first R&O adopted that is part of the Commission's 1998 Biennial Review of regulations which no longer serve the public interest as required by Section 11 of the Communications Act.

When fully operational, ULS will replace eleven separate licensing systems and databases now being used for various wireless services with a single system by consolidating all radio service applica-

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tions and licensing rules. The FCC said the new licensing system would eliminate nearly 200 duplicating and inconsistent rules in various radio services.

ULS will fundamentally change the way the Commission receives and processes wireless applications. It will eliminate the need for some licensees in some services to file duplicate applications, and will increase the accuracy and reliability of licensing information.

The FCC said, "The enhanced information collection capabilities of ULS will, in turn, enable the Commission staff to easily monitor spectrum use and competitive conditions in the wireless marketplace and will promote effective implementation of spectrum management policies. ...ULS will enhance the availability of licensing information to the public, which will for the first time have access to all wireless licensing data on-line."

We have not yet seen the *Report and Order* and this account is being completed from the press release issued by the Commission and telephone inquiries we made to the FCC. Many of the ULS features applying to the Amateur Service are not yet known. The *Public Notice* did, however, say the Commission took the following actions in the R&O:

- The Commission adopted the following four consolidated ULS application forms for wireless services replacing over 40 existing forms: Form 601 is the Long-Form or *FCC Application for Wireless Telecommunication Bureau Radio Service Authorization*; Form 602 is the *FCC Ownership Disclosure Information for the Wireless Telecommunications Services*; Form 603 is the *FCC Wireless Telecommunications Bureau Application for Assignment of Authorization or Transfer of Control*; Form 605 is the *Quick-Form Application for Authorization in the Ship, Aircraft, Amateur, Restricted and Commercial Operator, and General Mobile Radio Services*. Thus, the FCC Form 610 will be replaced with a new electronic Form 605. There will also be a paper document version. The Commission said they will permit use of existing forms for a period of six months after the effective date of these rules. Since all VECs already file applications electronically, we were told that the Amateur Service would probably be the last service to implement the new Form 605 procedure.
- The Commission consolidated wireless licensing rules currently contained in service-specific rule parts into in a single set of rules in Part 1, eliminating duplicative and unnecessary rules. In other words, instead of having the application filing instructions as part of each service's rules, each service will now be referred to a new section in Part 1, *FCC Practices and Procedures* which will apply to all services
- Electronic filing in ULS will be mandatory for appli-

cants and licensees in services that are licensed by auction, but not for applicants and licensees in other wireless services. As a result, all common carrier services (e.g., cellular) and geographically licensed services (e.g., PCS, LMDS) will be subject to mandatory electronic filing. However, public safety, private land mobile services on shared spectrum, Amateur Radio, GMRS, Ship and Aircraft, and Commercial Radio Operators will have the option of filing electronically or manually.

- These mandatory electronic filing requirements will take effect on July 1, 1999, or six months after the use of ULS in the particular service, whichever is later. The Commission will first implement ULS on services that do not file electronically. Since the Amateur Service already has workable electronic filing procedures, it could be some time before the Amateur Radio participates in the ULS procedures.
- The Commission took steps to ensure that ULS electronic filing and data programs are accessible to persons with disabilities in compliance with its program accessibility rules and the new requirements of the *Workforce Investment Act of 1998*.
- It will be mandatory for the volunteer examiner-coordinators (VECs) to electronically file Amateur Service new and upgraded license applications, but amateurs (or their agents) will be able to renew and/or modify their own licenses on-line. ULS will be used to notify wireless licensees ninety days in advance of license expiration, but all licensees must file a timely renewal application on or prior to the expiration date of the license, regardless of whether they receive such notification.
- The Commission adopted requirements for the submission of *Taxpayer Identification Numbers* (TINs) in ULS consistent with the requirements of the *Debt Collection Improvement Act of 1996*. The Commission stated that all TIN information will be kept confidential. It is unclear at this point how this will be implemented in the Amateur Service. The TIN used on Amateur Service applications is the applicant's social security number.
- The Commission adopted proposals made in WT Docket 96-188 to authorize reciprocal operation by foreign amateur radio licensees by rule, pursuant to recent international reciprocal operating agreements. The United States has reciprocal arrangements with 66 countries to allow amateur operators to operate their stations temporarily in the other country. The Commission currently grants annually some 2,000 reciprocal permits for alien amateur licensee (FCC Form 610-AL) to amateur operators from those countries. The visitor must obtain the application form (FCC Form 610-A) — which is often

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difficult to do in a foreign country -- and file it with the Commission. No standards are required of these applicants other than possession of the license document issued by their country of citizenship. There is no fee. The FCC-issued permit, therefore, simply confirms that the holder of the permit also holds a license from his or her home country. For Canadian amateur operators who visit the United States, no permit is required because they are already authorized to operate by rule. The FCC said there is no need to continue issuing the reciprocal permit for alien amateur licensees because the license from any foreign country with which the United States has reciprocity would stand as the proof that the foreign operator is qualified for the reciprocal operating authority. No citizen of the United States -- regardless of any other citizenship held -- would be eligible under this authorization procedure. United States citizens would continue to have to acquire an FCC-issued amateur operator license by passing the requisite examinations.

- The Commission identified numerous General Mobile Radio Service (GMRS) rules to be eliminated and streamlined as duplicative or unnecessary to its regulatory responsibilities. The rule changes will also facilitate the conversion of GMRS data collection procedures and databases to ULS.

The FCC also had proposed in the NPRM to privatize the licensing of Amateur Radio Clubs but the press release did not mention if this feature was adopted. Currently, the Commission processes annually some 1,500 applications for new, renewed and modified amateur service club and military recreation stations. Application is made on FCC Form 610-B. There is no fee and the resulting license grant simply authorizes the use of a unique call sign in the station identification procedure. The FCC proposed to utilize the electronic batch filing capabilities provided by the private sector and said they anticipated that many VECs would be likely to volunteer their services as club station call sign administrators.

We will cover the *Report and Order* as it applies to the Amateur Service in more detail once it is received. The FCC told us that the final document -- although approved and adopted -- is still undergoing several editorial changes. We were told that it will be available, however, before our next newsletter deadline.

For more information on the new Universal Licensing System, the Commission's ULS webpage can be accessed at: <http://www.fcc.gov/wtb/uls/>

Action by the Commission, Thursday, September 17, 1998, by *Report and Order* (FCC 98-234). Chairman Kennard, Commissioners Ness, Furchtgott-Roth, Powell and Tristani with Commissioner Furchtgott-Roth issuing a separate statement.

## AMATEUR RADIO STATION CALL SIGNS

...sequentially issued as of the first of October 1998:

Radio District	Group A Extra	Group B Advanced	Group C Tech/Gen.	Group D Novice
0 (*)	AB0HW	KI0OB	(***)	KC0EFH
1 (*)	AA1UA	KE1KI	(***)	KB1DHA
2 (*)	AB2FR	KG2PB	(***)	KC2EDA
3 (*)	AA3RS	KF3CD	(***)	KB3DBA
4 (*)	AF4MA	KU4VA	(***)	KF4ZZX
5 (*)	AC5RM	KM5SW	(***)	KD5FHB
6 (*)	AD6GV	KQ6XX	(***)	KF6TAM
7 (*)	AB7ZA	KK7PV	(***)	KD7CTR
8 (*)	AB8DG	KI8GW	(***)	KC8KZU
9 (*)	AA9WT	KG9OQ	(***)	KB9TLV
N. Mariana	NH0F	AH0BA	KH0HE	WH0ABJ
Guam	(**)	AH2DH	KH2TR	WH2ANX
Hawaii	NH7O	AH6PO	KH7OB	WH6DEX
Am.Samoa	AH8R	AH8AH	KH8DM	WH8ABF
Alaska	AL0M	AL7RH	KL0QD	WL7CUW
Virgin Isl.	(**)	KP2CN	NP2KF	WP2AIJ
Puerto Rico	NP3Y	KP3BK	NP3YQ	WP4NOB

\* = All 1-by-2 & 2-by-1 call signs have been assigned.

\*\* = All 2-by-1 call signs have been assigned. When all 1-by-2 and 2-by-1 (Group "A") call signs have been assigned, Group "A" (AA-AK-by-2) call signs are next assigned.

\*\*\* = Group "C" (N-by-3) call signs have now run out in all radio districts. Group "D" (2-by-3) are now being assigned.)

**Note:** New prefix numerals now being assigned in Puerto Rico (KP3/NP3), Hawaii (AH7/KH7) and Alaska (AL0/KL0)

[Source: FCC Amateur Service Database, Washington, DC]

## NEW AND UPGRADING AMATEUR STATISTICS

For the Month of September 1996, 1997 & 1998

License Class	New Amateurs			Upgrading Amateurs		
	1996	1997	1998	1996	1997	1998
Novice	44	47	45	0	0	0
Technician	1365	792	691	0	15	1
Tech Plus	113	96	88	269	245	217
General	29	16	9	331	240	170
Advanced	3	3	1	222	187	156
Extra Class	4	5	1	174	144	95
<b>Total</b>	<b>1558</b>	<b>959</b>	<b>835</b>	<b>946</b>	<b>831</b>	<b>639</b>
<b>Decrease:</b>	<b>(25.4%)</b>	<b>(38.4%)</b>	<b>+12.9%</b>	<b>(8.2%)</b>	<b>(16.6%)</b>	<b>(23.1%)</b>

The above figures are compiled by accessing the FCC's online database over a month's time. All amateur records that contain a code "A" are first time licensed and code "B" represents amateurs who have upgraded. This report is then formatted by license class. It gives us a good indication of the current licensing trends in the Amateur Service.

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## CUTTING EDGE TECHNOLOGY

### ■ Two aerospace companies are racing to build an unmanned plane that can fly across the Atlantic Ocean.

Robotic aircraft are already in use by some electric utilities to inspect high-voltage transmission lines, and some clients may use such long-distance devices to collect information that satellites can't. Because there's no crew aboard, the planes don't have to be very big. One prototype's main body is about the size of a small car. The projected range of these planes is over 12,000 miles.

### ■ HALO Network to offer Internet, video and telephony services at lower costs from the stratosphere.

Angel Technologies Corp. (St. Louis, MO) has constructed an airplane designed to supplement the communications satellite market. The High Altitude Long Operation-Proteus plane can circle a city for hours at 50,000 feet, offering satellite-quality telecommunications with more than 25 kilowatts of power. This offers shorter propagation time and higher transmitter power. Three planes, each with a crew of two, can supply a 75 mile wide area 24 hours a day. Dick Rutan designed the HALO-P plane; it flies at slow speeds at high altitudes, very much like his famous "Voyager", which flew around the world without refueling. The first HALO-P plane was successfully test flown on September 22. The HALO Network will be deployed over Los Angeles in 2000.

### ■ Your kids will be wanting the new interactive Furby "animatronic" toy this Christmas! At least Hasbro's Tiger Electronics hopes so.

"Furby" is a fuzzy virtual pet toy that initially speaks in its own "Furbish" language and, through artificial intelligence, gradually learns English. There will be six different Furbys. Cost: \$25.00. You can listen to Furby at: <<http://www.game.com/furby/>> A multimillion TV advertising program begins this month.

■ If you've ever tried to find the open wire in a multiple-conductor ribbon cable, you know how frustrating it can be. Trying to locate a short can be even worse. Fortunately we now have test equipment that quickly tells exactly which wire in a cable is bad, and how far away from one end the problem is. The wiring

analyzer uses time-domain reflectometry (TDR) to locate the trouble, and it reveals the results as a percentage of the cable's length. A short may exist at the 3-ft point of a 10-foot cable, for instance, and the analyzer displays "OPEN 30%".

■ In a computer or telecommunications network, you may hear the term "dark fiber." This doesn't refer to the physical color of the fiber-optic cable, it refers to its current transmission status — that is, there's no light running through it. The fiber has been installed for future use but is currently inactive.

### ■ Laser pointers continue to shrink in size and price, so that thousands of people own them.

Some fans even take them to sporting events, unfortunately. Even major-league sports such as hockey, basketball, football and baseball have had play temporarily swayed by someone in the crowd attempting to distract players with those hard-to-locate red dots of light. Fans don't realize the danger in temporarily blinding someone, especially with either a 100-mph object or a ton of people coming at you.

■ There is now more radio broadcasters on the Internet than on the air! Web-based radio has grown 178 stations in 32 countries in 1996 to more than 1,500 by mid-1998. It is expected that nearly every radio station will be on the Internet within three to five years.

■ Almost every printed-circuit board containing TTL chips also contains plenty of bypass capacitors across the power bus. These devices help keep the power lines "clean" by eliminating the sudden drops in voltage that would otherwise occur because of the sudden state changes of the logic gates. The faster the switching speed, the physically closer to the power supply pins these capacitors must be to be effective. Many I.C. sockets are already available that contain these bypass caps, but now plans are in the works to physically implant bypass capacitance inside the chips themselves.

■ One way of testing the cutting power of an industrial laser is to fire it into a clear block of acrylic plastic. By comparing the shape and depth of the hole it leaves one can easily see how sharp and narrow one laser can cut against another. In many applications a laser is the only tool available for such fine cutting, and you want the beam to be as nar-

row as possible.

### ■ Electric companies have long known about the electrochemical reactions between dissimilar metals.

Where two different metals join, such as cables and mechanical connections, a sort of "battery" is created. The anode of this junction will begin to deteriorate as the electrons jump from it to the cathode. Many utilities use "sacrificial anodes," or metals that do nothing more than draw such destructive electrical activity away from crucial equipment. Magnesium buried in the ground beneath the legs of steel transmission towers helps protect the support structures and prevents corrosion.

## EMERGING COMMUNICATIONS

### ■ "Not Recommending This, But We're Telling You Anyway" Dept.:

Some people learn to their displeasure the downside of being chained to a beeper. Being continuously summoned for non-threatening "emergencies" gets old after a while. The more creative users are building their own Faraday cages for the little radio receivers. Hams know what we're talking about. "I didn't turn off my beeper, I just never got the message!"

■ Motorola certainly must have recognized a strong demand for their LEO Iridium satellite communication system, otherwise they wouldn't have spent all that money constructing it. It has taken them eleven years to design, develop and implement the system. But not everyone will be able to access it. For one thing, initial costs for a handset alone run up to \$3,000 and service charges range from \$1.75 to \$3 per minute. In addition, low-earth-orbit satellites' transmissions can't reach into the downtown regions of major cities. The metal of the buildings keeps radio waves out. The service is now in the test stage. Two thousand handsets have been distributed to individual, corporate and government customers in a controlled service rollout. (100,000 handsets will be available by year end.) Full commercial service — including messaging and paging — will begin November 1, 1998 in 122 countries.

■ Climbing electrical structures and working on high-voltage equipment isn't easy. The best of those who do gather at the annual Lineman's Rodeo.

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This year's Rodeo was held last month in Kansas City, attracting over 200 crews from around the world. Some of the contests involved climbing a pole with a raw egg and rescuing a "hurt man" from the top of a tower.

■ **A cable company in South Carolina inadvertently started something a few years ago** when it aimed a video camera at its lobby aquarium and left it there for a few days. All the staff wanted to do was send an active signal through their system (instead of color bars) as a prelude for a new cable channel. When the real program started, viewers flooded the switchboard, demanding their "virtual aquarium" back! They got it. Now The Computer Museum in Boston has a similar dedicated exhibit, The Virtual FishTank. Patrons can create their own "fish" on computer terminals and see how they behave with other "fish" in an exhibit that shows how complex living things work together. You can change parameters such as fear and hunger. The Virtual FishTank is controlled by 22 networked Sony computers, rendering 10 million pixels in real time on 12 projection screens.

■ **Parasitic resistances in power buses on circuit boards** was never much of a problem in the past, because the tolerance level of 5-volt TTL chips accepted small changes in voltage without degrading performance. Today, however, many boards use only 2.5 volts or even 1.8 volts. Circuit engineers must take into account the voltage drop between integrated circuits for the board to work properly. Such low-voltage circuits are also much more susceptible to noise.

■ **Unlike wire cables, fiber-optic cables can't take much mechanical stress.** Even bending one beyond a certain radius can dramatically affect its performance. The fiber can crack slightly, causing the photon equivalent of high SWR. This makes it harder for light to travel through the fiber and that's why technicians install these cables with great care. Don't pull hard on a fiber-optic cable, and don't strap it down in a 90-degree angle. Let it lie loosely.

■ **Engineers at battery companies say it is not unheard of for extremely old batteries** to still retain some small measure of their former voltages. The physics behind this contain several factors. You may not be able to light an LED with a 50-year-old "C" cell (or recharge it), but

you can often measure a few tenths of a volt from one with a voltmeter. Old batteries frequently turn up inside antique items, such as radios and flashlights, at flea markets.

■ **Switching over to high-definition TV (HDTV) means installing new equipment.** Stations in New York have been mounting new antennas for HDTV on the Empire State Building, although they are getting considerable flack from the New York Port Authority about doing the same thing on the World Trade Center towers.

■ **The TV industry knows that progress isn't without difficulties.** High-definition TV (HDTV) isn't nearly as picture-perfect as many said it would be. Industry officials told Congress in July about a series of technical glitches and interference problems. Not all cable systems are set up to carry HDTV signals, and that may affect the market. Thirty stations in the U.S. are scheduled to transmit HDTV by November 1st, and the FCC is working with Canadian and Mexican officials to head off any potential cross-country radio interference.

■ **While fiber-optic cables carry no electric current, that's exactly what you need to splice them.** A fusion splicer is a device that mechanically unites two optical fibers, much like solder unites copper wires. Once aligned in proper position in the splicer, an electric spark jumps across the two ends and welds them together.

■ **"So Long, S.O.S.":** The International Maritime Organization announced that Morse code will no longer be used by ships at sea after March 1, 1999. Modern satellite-based and digital equipment has made this mode obsolete and no longer mandatory.

■ **RF shielding is practically mandatory in modern automobiles if you expect them to work properly.** We've all heard stories of cars suddenly acting unpredictably when they pass close to transmitters. Another potential RF source has proven itself to be worrisome: high-voltage transmission lines. Several cases of interference from such power lines have been recorded during the design stage of various automobiles. This problem has of course been corrected before the cars reached the streets. The interference wasn't due to ordinary current, but sudden changes in

the current in the overhead wires. This created very strong transient voltages, much like lightning strikes.

■ **Due to the high cost, IBM is bowing out as the sole technology sponsor of the Olympic Games after the 2000 Olympics.** The International Olympic Committee will then go with a high tech consortium of many corporations.

## COMPUTER INFO

■ **The \$1000 PC used to be considered "low price." Now it is \$500 and less!** Look for major PC makers (including Compaq and IBM) to debut new \$599 retail computers based on non-Intel microprocessors. Compaq supposedly will offer a Cyrix 300-MHz based machine and IBM has a AMD K-6 266-MHz chip PC in the works. These systems are aimed at recent low-price entries by other makers (such as Packard-Bell.) Clone maker "Emachines" (South Korea) has a \$399 machine based on a 266-MHz chip and plans to market a Wintel-based iMac look-alike (complete with monitor) for \$499. Prices could even tumble to \$299 and \$199 when Cyrix's PC-on-a-chip is introduced.

■ **"Someone Got Paid to Do This" Dept.:** Remember those little LEGO blocks we built monstrous, colorful creations with when we were kids? Rejoice; "LEGO CAD" is here. Now you can create anything you want with LEGOs on your computer in 3-D. You can change colors of individual blocks without taking creations apart, build them again instantly whenever you wish, rotate the viewing angle and even see a "cost analysis" of such a project. Another software package, "LEGO Creator", will also let you animate structures and vehicles. It even includes digitized sounds of LEGO blocks clicking together.

■ **IBM's new hard drives can store 170 megabytes or 340 megabytes.** That may not sound like much these days, but these drives (available next year) weigh less than an ounce and are only about the size of a half dollar. The disk platter is only one inch in diameter. IBM plans to use these 3.3-volt microdrives in handheld PC's.

■ **One of the biggest hassles of animation is synchronizing lip move-**

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**ments with voices.** Some of the most advanced computer graphics software packages include prebuilt phonemes, which change a character's face and mouth to the shape of a specific vowel or consonant. They can also "morph," or automatically fill in the frames between two specific mouth shapes, to save the time and trouble of drawing them cell by cell. This speeds up production time significantly.

■ **What a difference a year makes!** Apple Computer has had three profitable quarters and its shares have more than tripled since the beginning of the year. Investors are betting that the iMac computer designed to give easy access to the Internet will make the once-struggling company's return to profitability permanent. It has been exactly a year (September 1997) since Apple founder Steve Jobs returned to Apple as its interim CEO.

■ **More and more program documentation is being encoded onto the CD-ROM itself, rather than printed into book form.** While using the main program the user can "call for help" at any time with the click of a mouse, and the information you need pops up on the screen. This saves paper and desk space, although you can print out any particular topic you wish and keep the rest in digital form.

■ **Digital cameras have been a hot seller since they allow immediate access to the image using a personal computer.** At first, nearly all use of these cameras was by businesses such as insurance adjusters, realtors or police. But that is changing. A large segment of PC users are now exchanging digital photographs by e-mail. Sony's cameras store images on floppy disks and the firm has just introduced the world's first floppy disk printer, the Mavica FVP-1 which enables consumers to instantly print pictures without a PC.

## INTERNET NEWS

■ **Dixons Group, London's largest electronics retailer is offering unlimited Internet access and e-mail at no cost to its customers.** There will be no registration, subscription fees or hourly-online charges for its new "Freeserve" service. The only cost will be for the local telephone line. We assume Dixons stores will make its money by selling the PC hardware.

■ **IBM is working on a new java-based class of information services it calls "pervasive computing."** It has already signed partnership agreements with Toyota and Boeing that could include screen phones or monitors mounted in cars and aircraft seats. Offerings could include electronic maps, restaurant information ...even engine diagnostic help. IBM's revenue will come from software sales.

■ **Modern (Internet) medicine department: An online pharmacy operation called Performance Drugs had been supplying Viagra and other medicines without traditional prescriptions this past summer.** The drug company was supposedly founded by a Colorado physician, Dr. Benjamin Johnson, 31 who is a licensed MD. A question came up as to whether Dr. Johnson could dispense drugs to someone he has not met ...and especially to unseen patients buying from out of state. To obtain the pills, the only requirement was to fill out a short "medical history" online and agree to \$99.50 for 10 tablets and a \$50 "physician review" credit card charge. The website <<http://www.performance-drugs.com>> has now closed down - only to be replaced by another: <<http://www.lifestyleUSA.com>>. The only difference seems to be that someone from the online pharmacy contacts the customer before shipping. Performance Drugs and LifestyleUSA both have the same 1-800-GET-DRUG (1-800-438-3784) phone number. It may be all legal, since a check of the Internet located other online pill mills. (Such as <<http://www.maleclinic.com/>> and <<http://www.viagra-express.com/>>). They charge up to \$12.00 per tablet plus another \$75 for consultation. One site suggests you cut the 100 mg pill in half to reduce the cost to \$6.00)

■ **Mercedes-Benz was the first automobile with access to the Internet.** Ford, Nissan and General Motors say they will follow although specific dates have not been given. In all these cases, the PC will be built into the car. Chrysler has a different idea! They will offer a "docking station" and modem for any hand-held computer. Once the computer is docked, the driver can display menu choices that include audio, traffic reports, vehicle diagnostics, climate controls, weather forecasts, e-mail, stock quotes and cellular phone service. Users will even be able to remotely control things in the home such as appliances, lights, sprinklers and security systems. The docking station only adds \$50 to \$100 to a vehicle's cost; modem,

another \$200.

■ **Oracle's Network Computer will provide the TV set top box to Belgium's new CyberTV service.** The new service will be offered by Belgacom (Belgium's telephone company) to its 4.7 million customers starting in January. It will permit customers to surf the web, do e-mail and use smart cards to manage their bank accounts, pay bills and transfer funds.

■ **NBC is taking its investment in "Snap!" — the new online portal service — very seriously.** They have relocated a team of high-priced interactive executives to "Snap!'s" San Francisco headquarters. NBC spent \$30 million for a 5% stake in C|Net as part of the deal that gave it 19% of Snap! with an option to purchase an additional 60% for close to \$40 million. <<http://www.snap.com>>

■ **Two former large online services are trying to make a come back.** Prodigy says an independent study says they have the most efficient connections to the Internet. Prodigy went national in 1990 and at its peak was the leading online service with 2 million subscribers and 1,000 employees. When America online flooded the nation with installation disks, AOL became the market leader and now has 13 million users. Prodigy subscribers currently stand at about 350,000. CompuServe, the nation's oldest online service is trying to resurrect their service as an Internet portal site. Their new "start page" look is that of a search engine and directory.

■ **Every wonder how a little known website gets 250,000 visits a day? The never-ending Web page is the latest annoyance to hit the Net.** These are sites that automatically route you from one related site to another whether you want to go or not. These sites use the "window open" javascript command. This (unwanted) feature is particularly prevalent on porn sites that pay webmasters on a "per click" basis to bring in traffic.

■ **The Royal Thai Police in Bangkok want to monitor Internet users "...to protect against any crimes that may occur on the network."** Telephone numbers that are used to access the Internet will be displayed at the department's server in Caller ID fashion so they know what every Internet user is doing.

**Saudi Arabia is in the process of**

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**getting local access to the Internet** where ISP licenses are being issued by the government. All Internet service will go through a gateway which has "firewalls" to block access to sites considered sensitive to the kingdom's conservative traditions.

■ **Be on the lookout for "TV" to appear in television industry related web site addresses.** The tiny Polynesian microstate of Tuvalu is gearing up for an Internet windfall which could make its citizens among the world's wealthiest on a per capita basis! The tiny country (only 9,000 inhabitants) has signed a deal which could bring them up to \$100,000 million annually for the use of their unique two-letter "tv" suffix assigned to the island. Tuvalu gets 65% of the revenue made by a Canadian company which will market the rights to ".tv.com" Tuvalu's current operating budget is only \$3.6 million.

■ **Search engine AltaVista finally obtained the Internet rights to the AltaVista.com domain name.** But it was costly. Compaq Computer Corp. agreed to pay \$3.3 million for rights to the trademark and domain name from Alta Vista Technology, Inc. (ATI), a company in San Jose, CA. Previously, to get to the Alta Vista search engine, you had to type: <<http://www.altavista.digital.com>> ATI paid \$100 for the AltaVista domain name in February 1995. They now become "www.PhotoLoft.com".

■ **The same dilemma seems to be awaiting Zapata Corp.'s use of "Zap"** at its new portal website: <<http://www.zap.com>> They are being sued by ZAP Futures, an Illinois electronic futures brokerage firm, for trademark infringement.

■ **And here is still another "name infringement" case.** SyNet began distributing a web browser in the fall of 1994 called "Internet Explorer." Six months later, Microsoft publicly announced their "Internet Explorer." On the basis of prior use, the U.S. Patent and Trademark Office decided last month to register the trademark "Internet Explorer" to SyNet, Inc., a now out-of-business Chicago-area software company. Microsoft's first defense was that it believed that the name was "common and descriptive" and therefore could not be trademarked. But if they held to that premise, then the term would become generic and available to any browser. It would have cost Microsoft \$30 million dollars to change the name ...not to mention loss of all the advertising

dollars Microsoft has spent promoting the name "Internet Explorer." Microsoft finally settled for \$5 million.

■ **Surf the Net hands free.** Conversational Computing Corp. has new software that lets you navigate the Internet by voice. You simply speak the web pages or graphics you want to see. Browser functions such as scrolling up or down at different speeds, going backward and forward, zooming in and out and printing is also controlled by verbal instructions. Converse Web, version 2.0 for Windows. \$59.95 with microphone, \$39.95 for just the CD-ROM. Tel. (425) 895-1800

## WASHINGTON WHISPERS

■ **Congress is trying again to protect children from indecent material on the Internet.** The House will vote on the *Child Online Protection Act of 1998*. The Senate passed a similar bill in July. The bill is being called CDA II after the *Communications Decency Act*, which was struck down by the Supreme Court last year. The bill requires that information considered harmful to minors over the Internet must be restricted to those over 17 years old. This version is narrower than the CDA, targeting information "harmful to minors" with an age-verification requirement to access the data. The bill limits minors' access to adult materials and sites without adult verification, such as a credit card. Commercial sites that provide materials considered harmful to minors could be fined up to \$50,000 or six months in jail, but the law protects data carriers and ISPs from liability. The law would also create a commission of 14 Internet industry representatives and three government officials to look at technology solutions to keeping harmful material away from minors. Had the law been in place already, it would have made the Web posting of Kenneth Starr's report about President Clinton's affair with Monica Lewinsky a criminal offense. Civil-rights groups say the bill doesn't pass constitutional muster, is ineffective at protecting children, and unnecessary.

■ **The federal government has been preparing for the 2000 census for several years.** The U.S. Postal Service will begin mailing 140 million forms on April 1st of that year. The census will take four years to complete, even with to-

day's technology. The project is so big that the government has contracted private companies to assist. Barcodes on the forms help sort out where they came from, optical-character-recognition systems will read each answer given by each citizen, and all this data will be added to the database. The Bureau of the Census has already practiced this new system, having processed half a million forms in a series of tests.

■ **Two-way high speed wireless Internet access from the home will eventually be a reality.** The FCC has cleared the way for wireless companies to provide high-speed Internet and other services to-and-from homes and businesses. Up until now, wireless technology could only be provided in one direction. Customers had to use slower telephone lines to move data from the home or business. The FCC's action means wireless companies will be able to offer speeds up to 100 times faster than the 128 kbs ISDN lines provided by telephone companies. To use the new service, people would need an outside antenna and a cable modem.

■ **Do you understand all those line-item charges on your phone bill?** Well, you are not alone. The FCC has a new rulemaking proposal out that would make them easier to read and comprehend. The agency hopes it will put a stop to two growing problems — slamming and cramming. (unauthorized switching of your long distance phone service and adding services you don't ask for.) So far this year, these two gripes have caused nearly 20,000 consumer complaints. As it is now, the agency now lets companies decide how to list and explain charges. One of the controversial billing practices is the listing of government-ordered subsidies as separate line items on a phone bill. Phone companies do this so they won't be accused of raising rates.

■ **But the FCC believes that phone companies should not be passing on the cost of wiring the nation's schools and libraries to the Internet.** The up to 90% reduction in the price they pay for Internet service is being tacked onto phone bills. The agency contends that the \$1.7 billion reduction in access charges that long distance companies pay more than offsets the cost of the "e-rate" (education rate) plan. Still, MCI, AT&T and Sprint are charging business customers an additional 4 - 5% "Universal Service"

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charge without explanation to pay for the Internet connections. Congress says this "telephone tax" was enacted without their approval. The e-rate program is administered by the FCC-created "Schools and Library Corp." which has 13 employees and 84 independent contractors. Their CEO gets paid \$250,000 — more than any federal employee except the president. A new plan to pay for the e-rate program is now being looked into. An existing 3% telephone excise tax (enacted in 1898 to pay for the Spanish American War) goes to the general fund. Congress wants to divert enough of this tax to pay for the e-rate program. This would result in no additional taxes to anyone.

■ **Strangely, Internet access is not the most desirable electronic addition to a classroom.** Teachers and principals ranked having cellular telephone access as the most useful, followed by computers and then the Internet. In most schools, telephone service is available only at one central location — the school office. Cellular phones can move communications directly to the classroom while avoiding costly wiring. According to a national survey, wireless phones are useful in emergencies, enhance parent-teacher and teacher-teacher communication, decrease the feeling of isolation and saves time. Teachers with cellular access make 10 to 12 calls daily!

■ **U.S. may need to regulate Internet access.** A new 129-page FCC report says they may have to reinterpret current laws and Congress may have to pass new ones to fit "...the new global communications medium known as the Internet."

■ **The U.S. Government is convinced that the Y2K (Year 2000) problem is very real and very serious.** All types of computers and various other systems are impacted. President Clinton recently created a federally controlled "Year 2000 Council" to insure that federal computers are prepared for the millennium. Their website is: <<http://www.y2k.gov>>

The FCC serves as an information resource for the communications industry and they have information at: <<http://www.fcc.gov/year2000/>> The National Institute of Standards and Technology (NIST is an agency of the U.S. Department of Commerce's Technology Administration) has very interesting and useful consumer information at <<http://www.nist.gov/y2k>> Yahoo also has a Y2K section at: <<http://headlines.yahoo.com>>

/Full Coverage/Tech/Year 2000 Problem/ The Small Business Administration provides help at: <<http://www.sba.gov/y2k/>>

## AMATEUR RADIO

■ **All hams are familiar with co-axial cable, also known as "co-ax."** Ever wonder what the "RG" in RG-58 means? It goes back to the days when co-ax was made to military specifications and given RG/U numbers (Radio Guide Utility). Over time the "U" was dropped. The numbers in the suffix refer to the cable's impedance characteristics.

■ **The UK has changed their 10 GHz Amateur allocation.** Effective February 1<sup>st</sup>, the 10:00-10.15 GHz and 10.30-10.50 GHz (terrestrial) and 10.45 - 10.50 GHz (amateur-satellite) bands will become 10.00 - 10.125 GHz and 10.225 - 10.475 GHz. This is to facilitate the introduction of Radio Fixed Access (RFA.) The UK's *Radiocommunications Agency* said that the Amateur Service and short range devices operating above 10.5 GHz are not compatible.

■ **MFJ has a new Professional Classroom Morse Code Tutor** that is designed for VE teams and ham radio instructors. It includes an LCD readout, printer port, audio tape recording input, pure audio, a computer interface and can store up to 16 FCC Morse code exams for VEs. \$199.95 (Call: 1-800-647-1800.)

■ **Kenwood recently introduced a new Portable Emergency Radio Communications Kit** which includes a dual band base station ham radio capable of APRS (Automatic Position Reporting System), dual band portable transceivers, a switching power supply, magnetic mount antenna, charger, and various other essential accessories to use for disaster management communications. (310-537-4200)

■ **W3OTC, Inc., has nothing to do with amateur radio.** It is an Internet-based investor network specializing in small growth stocks in the Over-the-Counter (OTC) stock market. W3OTC is also the ham call assigned to a Rockville, MD amateur.

■ **AMSAT advises that Russia plans**

**to generate cash by charging for the use of the radio spectrum.** Funds will be used to finance the Ministry of Defense and the Russian Space Agency. Auctions will also be held to determine who gets licenses for cellular telephone systems in Russia. (AMSAT News Service bulletin)

■ **Advanced Fiber Communications, Inc. (AFCI)** has been given approval by the FCC to operate an unlicensed digital spread spectrum microwave radio system in the 5.7 GHz band. This band is allocated to both the Amateur Service (on a secondary non-interference basis) and for use by Industrial, Scientific and Medical (ISM) equipment. AFCI plans to offer a wireless system to connect remote areas to the public switched telephone network.

■ **The Federal Communications Commission announced on September 28th a change in the handling of enforcement actions concerning the Amateur Radio Service.** By internal arrangement between the FCC's Compliance and Information Bureau (CIB) and the FCC's Wireless Telecommunications Bureau (WTB) as of September 1, 1998 all investigation, evaluation and processing of radio amateur related enforcement matters have been transferred to the CIB. The main objective of this change is to facilitate the Commission's pursuit of compliance in the amateur service especially with regard to resolution of interference complaints.

The CIB staff now handles amateur radio enforcement matters from initiation to resolution, including, as appropriate, complaints, amateur testing issues, warnings, monetary penalties, revocation hearings or, in extreme cases, equipment seizure and prosecution through the Department of Justice. WTB continues to handle all processing and licensing matters including new applications and licensing renewal matters ...and all policy and rule making matters related to amateur radio.

All amateur enforcement questions and complaints should be sent to:

**Compliance and Information Bureau  
Compliance Division  
Attention: Amateur Complaints  
1919 M Street, Mail Stop 1500E1,  
Washington, DC 20554**

Telephone calls should be directed to:  
(202) 418-1184

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## FCC SAYS YOU CAN FILE COMMENTS ON PAPER

We received an inquiry from one of our readers asking if people with no access to a computer could still file comments on the recent *Notice of Proposed Rulemaking* (WT Docket 98-143) which proposes to restructure the Amateur Service. The NPRM lists three ways that comments may be sent to the FCC.

- (1.) Comments may be filed through the ECFS (Electronic Comment Filing System) located on the Internet at <<http://www.fcc.gov/e-file/ecfs.html>>. This system allows the public to upload a file or to type in brief comments.
- (2.) Parties may also submit an electronic comment by Internet e-mail. To get filing instructions commenters,

comments send an e-mail to [ecfs@fcc.gov](mailto:ecfs@fcc.gov) and include the following words in the body of the message: "get form <your e-mail address>."

(3.) Parties who choose to file by paper should send their comments to: Secretary, Federal Communications Commission, Attention: Magalie Roman Salas, 1919 M Street NW, Room 222, Washington, DC, 20554. A copy of the comments should also be submitted on diskettes to: FCC, M.J.DePont, Public Safety and Private Wireless Division, WTB Room 8332, 2025 M Street NW, Washington, DC 20554.

The FCC now says that they will accept paper filed comments without the need to send the diskette. All comments must indicate: WT Docket No. 98-143.

## AMATEURS COUNTER HURRICANE WITH REGIONAL RESPONSE

After devastating several Caribbean ports of call and clobbering the Florida Keys last week, Hurricane Georges spent the September 26<sup>th</sup> and 27<sup>th</sup> weekend regaining strength in the Gulf of Mexico. Heavy rains and high winds along the Gulf Coast, including the Florida Panhandle, Alabama, Louisiana, and Mississippi, heralded the storm's landfall early Monday, September 28th near Biloxi, Mississippi.

The storm packed 105 MPH winds, but gusts of up to 176 MPH were reported at Keesler Air Force Base at Biloxi. Rain totaled 25 inches along the hurricane's track. Concern for flooding prompted the evacuation of more than 1-million people from New Orleans and vicinity.

The FCC on Sunday declared a communications emergency in Mississippi, Louisiana, and Texas to clear 7285 and 7290 kHz during the day and 3873 and 3935 kHz after dark (3 kHz) for emergency traffic only. Mississippi Section Manager Malcolm Keown, W5XX, says hams in Mississippi, Texas, and Louisiana cooperated in the storm response. The net on 7285 and 3873 passed emergency traffic for the region. The net on 7290 and 3935, run by South Texas SM Ray Taylor, N5NAV, handled substantial health-and-welfare traffic.

Hams in Mississippi and elsewhere in the affected region filed weather condition reports to W4EHW at the National Hurricane Center via the Hurricane Watch Net on 14.325 MHz. The Hurricane Watch Net was in nearly continuous operation the previous 10 days.

In Alabama, SEC Joey Carter, AE4WP, reported hams were busy. "Mobile and Baldwin counties were pounded, but early reports contain no major damage," he said. The Alabama Emergency Net was active on 3935 kHz.

In Northern Florida, SEC Nils Millergren, WA4NDA, reported shelters were opened in three counties with more than 3000 people in Escambia County alone taking refuge. Major flooding occurred in Escambia, the state's westernmost county. ARES was reported available for emergency communication to the western panhandle counties.

In Puerto Rico, which suffered heavy damage at the hands of Georges, hams have continued to help, especially in areas where conventional communication is out. Central Puerto Rico was the worst-affected region because of the mountainous terrain. Power lines knocked out there have been difficult to reach to repair. Nearly 300 people have died as a result of the hurricane. Mostly in the Dominican Republic. (ARRL Bulletin)

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● There seems to be a lot of confusion surrounding exactly what the Morse code requirements are in the FCC's recent *Notice of Proposed Rulemaking*, Amateur Service Restructuring WT Docket No. 98-143.

While it is true that the Commission proposed to leave the 13 WPM code associated with the General Class and to phase out the Novice and abolish the Technician Plus Class (both of which require 5 WPM code), the FCC did NOT propose to abolish the availability of Element 1(A) — the 5 wpm Morse code examination — nor the ability to receive *Certificate of Successful Completion of Examination* (CSCE) credit and what was Novice HF operating privileges. The proposal was that no new Novice licenses would be issued and Technician Plus licenses would be renewed as Technician.

Section §97.503(a)(1) still provides for the 5 WPM code examination, Section §97.509(l) still requires a VE to issue a CSCE when an examinee passes an examination and new Section §97.301(e) provides existing Novice and any Technician w/CSCE credit for 5 WPM access to the 80, 40, 15 and 10 meter Novice bands. Section §97.505 (a)(3)(5) provides 5 wpm credit to any Novice or Technician Plus amateur with an unexpired (or expired but within the grace period for renewal.)

Thus, any applicant who passes Elements 1(A) — 5 WPM code — after passing the Technician requirements gets Technician Plus operating authority — even though the class is being abolished. This is in keeping with the way nearly all amateurs have been obtaining beginning HF privileges anyway. Extremely few go the Novice route.

The ARRL version is to eliminate the Novice and Technician Plus Classes and grandfather them without further examination to a new Class C (corresponding to the General Class) which would have a 5 WPM telegraphy requirement (instead of 13 WPM.)

We think a better way to do this is to phase out the Novice and Advanced Class and to abolish the Tech Plus Class. 5 WPM code would be the requirement for the General and Extra Classes. The Advanced Class would be phased out in the same manner as the FCC proposed for the Novice Class. (i.e. No new licenses would be granted. Novices could upgrade to Technician (with 5 WPM credit) by passing the new Element 3A.

The General and existing Advanced Class could upgrade to Extra by passing a new Element 4 — an examination prepared from the existing Element 4A and 4B question pools. That would leave us with:

- (1.) Three license Classes: Technician, General and Amateur Extra Class,
- (2.) One CW examination, Element 1(A) at 5 WPM and;
- (3.) Three written examinations, Element 3(A) Technician, Element 3(B) General and Element 4 — Extra Class.

## INTERNATIONAL SPACE STATION TO BE DELAYED

The \$21 billion space station, a joint project between several countries — but primarily the United States and Russia — has been dealt another blow by the cash-strapped Russian space industry. Russia will fail for the third time to meet its commitment to build a key component.

Despite repeated pledges, the Russian government has failed to provide the needed funding for the construction of the service module that is to serve as the living quarters for the crew. The component can not be completed in time for the scheduled April 1999 launch and it is unknown when the part will be completed. The best guess at this point is by the third quarter of 1999.

The service module was to have launched as the third launch of the series. At a meeting of the Space Station Control Board May 30 at the Kennedy Space Center, all station partners agreed to the first two launch dates of November 20, 1998 and December 3, 1998.

Although ready for launch, these two missions are now on indefinite hold. The first launch was to orbit the cargo module which was built by Boeing under a Russian contract. It is already completed and has been shipped to the Baikonur Cosmodrome in the former Soviet republic of Kazakhstan. The second component, a connecting passageway financed and built by NASA, is also on schedule.

NASA is now reviewing whether to start building the station without the vital service module. The agency is also considering decreasing Russia's role in the project which the Russian Space Agency opposes since it would deprive them of the national pride in being a major developer of the International Space Station. This option has NASA paying up to \$150 million a year for four years to help finance Russia's involvement. Even with the cash infusion, the United States can't be sure that Russia will be able to come up with the balance of the funding.

Amateur radio was to have had a major presence aboard the ISS. Several of the first two ISS crew teams either hold ham tickets or are studying for their licenses. It now appears certain that the first crew will not be launched as planned during July 1999. The transportable ham radio equipment to be used aboard the space station is being developed by AMSAT-NA's VP of Manned Space, Frank Bauer, KA3HDO.

The plans were for Russia to have a smooth transition from the aging Mir space program to the International Space Station. Russia had originally wanted to keep Mir, the world's only orbiting research station, flying until the first astronauts arrived on the new International Space Station. That apparently will not happen. Mir will be retired as scheduled in June 1999 even though some Russian officials want to extend its life. The U.S., however, is anxious for Moscow to retire Mir and focus its meager financial resources on the new International Space Station, which is already a year behind schedule.